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09/846,104	04/30/2001	William J. Allen	10003273-1	5028

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EXAMINER	
BAKER, CHARLOTTE M	

ART UNIT	PAPER NUMBER
2626	

DATE MAILED: 11/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/846,104	ALLEN ET AL.	
	Examiner	Art Unit	
	Charlotte M Baker	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-22 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-22 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *April 30, 2001*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to, line 7, replace "predicted" with "predicting". Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-6, and 16-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Nagao et al. (5,294,959).

Regarding claim 1: Nagao et al. disclose printing a test patch having a desired test appearance (test patches generated by a test pattern generator, col. 4, ln. 36-41); scanning (optical scanning device 3K) the test patch to identify an initial test patch appearance (col. 4, ln. 42-52); predicting a settled test patch appearance based on the determined appearance-affecting condition and the initial test patch appearance (col. 5, ln. 40-48); comparing the predicted settled test patch appearance with the desired test patch appearance to yield a correction factor (col. 5, ln. 14-26); calibrating the imaging system to apply the correction factor to a subsequent printing operation (col. 5, ln. 53-62).

Regarding claim 2: Nagao et al. satisfy all the elements of claim 1. Nagao et al. further disclose wherein the appearance-affecting condition is an environmental condition (environment sensors determine environmental condition, col. 5, ln. 5-26).

Regarding claim 3: Nagao et al. satisfy all the elements of claim 2. Nagao et al. further disclose wherein the environmental condition is determined using a sensor incorporated in the imaging system (environment sensors, col. 5, ln. 5-7).

Regarding claim 4: Nagao et al. satisfy all the elements of claim 2. Nagao et al. further disclose wherein the environmental condition is ambient humidity (col. 5, ln. 5-7 and col. 7, ln. 31-36).

Regarding claim 5: Nagao et al. satisfy all the elements of claim 4. Nagao et al. further disclose determining ambient temperature (col. 5, ln. 5-7); and wherein the step of predicting a settled test patch appearance is based on ambient temperature and ambient humidity (col. 5, ln. 40-52 and col. 7, ln. 31-36).

Regarding claim 6: Nagao et al. satisfy all the elements of claim 2. Nagao et al. further disclose wherein the environmental condition is ambient temperature (col. 5, ln-5-7 and col. 7, ln. 31-36).

Regarding claim 16: Nagao et al. disclose a print engine (laser beam printer) configured to apply colorant (toner) to a print medium (transfer sheet P) based on input color values corresponding to a desired color (col. 3, ln. 27-42 and col. 3, ln. 54-58); an input (environment sensors, col. 5, ln. 5-7) configured to identify an appearance-affecting condition (temperature and relative humidity); a data storage device (controller 15) including a plurality of color shift vectors (table in controller 15) selected to predict color settling under various appearance-affecting conditions (col. 5, ln. 14-26); a processor (controller 15 acts as data storage device and processor) linked to the data storage device (internal to controller 15) and the input (environment sensors), the processor being configured to apply an appropriate color shift vector to an initial

color to predict a settled color under the selected appearance-affecting condition (col. 5, ln. 14-26).

Regarding claim 17: Nagao et al. satisfy all the elements of claim 16. Nagao et al. further disclose wherein the input is a sensor (environment sensor) input defining an environmental condition (col. 5, ln. 5-7).

Regarding claim 18: Nagao et al. satisfy all elements of claim 16. Nagao et al. further disclose an optical scanner (light receiving element 12*b*) linked to the processor (controller 15) and oriented to scan the print medium to determine the initial color (col. 5, ln. 53-59).

Regarding claim 19: Nagao et al. satisfy all elements of claim 16. Nagao et al. further disclose wherein the processor (controller 15) is further configured to compare the predicted settled color to the desired color (col. 5, ln. 40-48), and providing the print engine with subsequent input color values to yield a subsequent initial color that is predicted to settle under the appearance-affecting condition (col. 5, ln. 14-26 and col. 5, ln. 53-62).

Regarding claim 20: Nagao et al. satisfy all the elements of claim 16. Nagao et al. further disclose wherein the processor is further capable of exporting the predicted settled color to an external image processor (CPU, col. 10, ln. 25-40).

Regarding claim 21: Nagao et al. satisfy all the elements of claim 16. Nagao et al. further disclose wherein the imaging system is an electrophotographic printer (col. 1, ln. 8-13).

Regarding claim 22: The body of the claim is not drawn to an inkjet printer; therefore, the claim is being interpreted negating this fact.

Nagao et al. disclose a printer carriage (photosensitive drum, 1K, 1Y, 1C, 1M) for applying a plurality of colorants to a print medium (col. 3, ln. 27-42 and col. 3, ln. 54-58); an

optical scanner (light emitting element 12*a* and light receiving element 12*b*) incorporated into the printer carriage (photosensitive drum, 1K, 1Y, 1C, 1M), the optical scanner including a light source and a light detector (light emitting element 12*a* and light receiving element 12*b*), where the optical scanner is configured to scan the print medium (col. 5, ln. 53-59); a sensor (environment sensor, col 5, ln 5-7) able to measure an environmental condition; a data storage device (controller 15) having stored thereon a plurality of color shift vectors (table in controller 15) that are functions of the environmental condition (col. 5, ln. 14-26); a processor (controller 15 acts as data storage device and processor) linked to the data storage device (internal to controller 15) capable of applying the appropriate color shift vector for the measured environmental condition to an initial scanned color to yield a predicted settled color for the measured environmental condition (col. 5, ln. 14-26).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagao et al. in view of Furuya (6,297,873).

Regarding claim 7: Nagao et al. satisfy all the elements of claim 1.

Nagao et al. fail to specifically address lamination as an appearance-affecting condition.

Furuya discloses an identification sensor 67 for reading the type of photographic printing paper to be printed on. Photographic printing paper is a form of lamination. Furuya discloses

wherein the appearance affecting-condition is lamination (col. 9, ln. 45-67 through col. 10, ln. 1-8).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to include the detection of print medium type so that the resulting image is appropriate as taught by Furuya (col. 1, ln.15-28).

Regarding claim 8: Nagao et al. satisfy all the elements of claim 2.

Nagao et al. fail to specifically address selecting a print medium type. Furuya further discloses selecting a print medium type (identification sensor 67 or 68, col. 10, ln. 24-34).

6. Claims 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito (6,033,137) in view of Campbell (6,610,133).

Regarding claim 9: Ito disclose printing a plurality of test patches (printing a combination of test patterns, col. 12, ln. 3-5); optically scanning (reference numeral 10, col 5, ln. 57-60) the test patches to determine an initial color for each test patch (color density, col. 10, ln. 57-61); optically scanning (reference numeral 10, col 5, ln. 57-60) the test patches to determine a final color for each test patch (col. 12, ln. 16-21); calculating a shift vector (control signals 17*a* and 17*b*,) for each test patch from the initial color (first image correction portion 14) to the final color (second image correction portion 16) that is a function of the appearance-affecting condition (col. 6, ln. 22-55); applying the appropriate shift vector for a field appearance-affecting condition to a field test patch to yield a predicted field test patch color (col. 12, ln. 22-32).

Ito fails to specifically address permitting test patches to settle for a predetermined time.

Campbell discloses wherein the test patches are permitted to settle for 1 hour (col. 5, ln 59-67 through col. 6, ln. 1-2).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to include the process taught by Campbell which entails the exposure of ink test patches to various conditions to determine an ultimate print quality.

Regarding claim 10: Ito in view of Campbell satisfy all the elements of claim 9.

Campbell further discloses wherein the test patches are permitted to settle for 1 to 96 hours (col. 5, ln. 59-67 through col. 6, ln. 1-11).

Regarding claim 11: Ito in view of Campbell satisfy all the elements of claim 9.

Campbell further discloses wherein test patches are permitted to settle under a variable environmental condition (col. 5, ln. 59-67 through col. 6, ln. 1-11).

Regarding claim 12: Ito in view of Campbell satisfy all the elements of claim 11.

Campbell further discloses drying the test pattern under ambient conditions, which reads on "wherein the environmental condition is humidity" (col. 5, ln. 62-63).

Regarding claim 13: Ito in view of Campbell satisfy all the elements of claim 11.

Ito further discloses wherein the imaging system is a multicolor imaging system utilizing primary colors (ink jet printing apparatus, head 9, CMYK, col. 5, ln. 50-52, col. 7, ln. 12-17), and at least one test patch is printed using each primary color (col. 12, ln. 3-10).

7. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito in view of Campbell and further in view of Mestha et al. (6,744,531).

Regarding claim 14: Ito in view of Campbell satisfy all the elements of claim 9.

Ito in view of Campbell fail to specifically address CIE L*a*b* color space.

Mestha et al. disclose wherein the shift vector is a vector in CIE L*a*b* color space (col. 5, ln. 43-51).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to locate the shift in different color spaces to enable image data that more closely represents the target image data as taught by Mestha et al. (col. 2, ln. 47-50).

Regarding claim 15: Ito in view of Campbell satisfy all the elements of claim 9.

Ito in view of Campbell fail to specifically address CMYK color space.

Mestha et al. disclose wherein the shift vector is a vector in CMYK color space (col. 5, ln. 51-63).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charlotte M Baker whose telephone number is (703) 306-3456. The examiner can normally be reached on Monday-Friday 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly A Williams can be reached on (703) 305-4863. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KA Williams

KIMBERLY WILLIAMS
SUPERVISORY PATENT EXAMINER

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